

Department of Veteran Affairs Gulf War Research

While most ill Gulf War veterans who have been seen at Department of Veterans Affairs (VA) healthcare facilities have symptoms that can be diagnosed and effectively treated, a small number of the 700,000 American troops who served in Operations Desert Shield/Storm suffer health problems that the best doctors cannot yet diagnose. To help these veterans, President Clinton designated VA as the lead government agency for all Federally-funded research on the possible adverse health effects of military service in the Gulf War. President Clinton also ordered Federal researchers to "leave no stone unturned" in the search for answers to the varied medical questions and health concerns raised by Gulf War veterans and their families.

About 145 Gulf War-related Federally-funded studies have been authorized. More than \$133 million are being spent on these government-wide research projects. The scope of this research is very broad, from small pilot studies to large-scale epidemiology studies involving large study populations and major research and academic medical center programs.

President Clinton also established the Persian Gulf Veterans Coordinating Board (PGVCB), co-chaired by the Secretaries of Defense, Health and Human Services, and Veterans Affairs to take necessary actions to respond to the health concerns of Gulf War veterans and their families. Through the PGVCB's Research Working Group and in coordination with other Federal departments and agencies, VA has developed a comprehensive research portfolio that focuses on the highest priority medical and health issues.

VA Environmental Hazards Research Centers

In 1994, VA established three research centers to focus on scientific studies regarding how environmental and toxic hazards may affect human health, especially the health of military veterans. These centers were opened because VA listened to Gulf War veterans who expressed concerns about the long-term health effects of environmental exposures encountered by U.S. troops. The centers are pursuing scientific answers to many of the questions that have been raised by Gulf War veterans and their families. The initial three centers are located in VA medical centers in Boston, MA; East Orange, NJ; and Portland, OR. In 1996, VA opened a fourth center. It is located in Louisville, KY.

■ The Boston Center is conducting research that emphasizes cognitive and memory function, the nervous system, the immune system, lung function, and the incidence of cancer. The Center is also studying how wartime experiences may relate to such health problems as chronic fatigue, chemical hypersensitivity, and post-traumatic stress disorder.

■ The New Jersey Center researchers are examining the types of health problems that occur in some Gulf War veterans and the factors that determine how such problems develop or are made worse. These researchers are particularly interested in evaluating chemical sensitivity and chronic fatigue syndrome among Gulf War veterans.

■ The Portland Center is working on developing a definition of the unexplained illnesses reported by some Gulf War veterans and finding effective treatments for these veterans. The Center is conducting studies to identify what environmental exposures or risk factors may be associated with the unexplained illnesses. Researchers are screening veterans for medical, chemical, and biological markers that may reveal exposure and disease. Researchers at the Center are also looking at how chemical agents may affect the brain and nervous system, including the possible effects of the nerve agent pre-treatment pyridostigmine bromide, and pesticides.

■ The Louisville Center was established to conduct research on the potential adverse effects of military service on reproductive health. The Center's goal is to determine whether exposure to various hazardous substances affects reproductive capacity and causes birth defects in veterans' children.

VA Large-Scale Epidemiology Studies

VA's Environmental Epidemiology Service (EES) studies the health of military and veteran populations and investigates possible links between environmental exposures during military service and the long-term health of veterans. That office is currently conducting two major Gulf War-related research projects: a mortality study and a national survey of the health status of Gulf War veterans and their family members.

■ The mortality study looks at all causes of death for Gulf War veterans after their service in the theater of operations. Researchers are comparing that information with the causes of death for veterans who served in the military during the Gulf War era but were not deployed to the Gulf area. The initial findings (described below) were published in the New England Journal of Medicine in November 1996. EES researchers have and will continue to evaluate more recent data to update their early findings at scientific meetings and in professional journals.

■ The National Health Survey of Gulf War Veterans and their family members is designed to estimate accurately how often symptoms and illnesses affect these veterans and their families. Phase I, a survey of about 15,000 Gulf War veterans and a comparison group of approximately 15,000 Gulf War-era veterans not deployed to the theater of operations, was completed in August 1996. The questionnaire asked veterans to report health complaints, medical conditions, and possible exposures to a wide variety of possible environmental agents, including potential nerve gas or mustard gas exposures. Phase II consists of approximately 8,000 telephone interviews and a review of 4,000 medical records.



Phases I and II are complete with an overall response rate of 70 percent. Data analysis is nearly finished, and a report may be published later this year. Phase III provides for physical examinations of selected veterans and their families. September 1998 saw the initial examinations of 1,000 randomly selected deployed and non-deployed veterans and their families at 17 VA medical centers.

New VA Research Efforts

In 1999, VA launched two major studies of possible treatments for symptoms of the undiagnosed illnesses reported by some Gulf War veterans:

■ One of the studies will test whether exercise and cognitive behavioral therapy (CBT)-separately or in combination-improve physical function. CBT teaches patients techniques for reducing the severity of symptoms and is commonly used to enhance traditional treatments for many chronic conditions, including cancer, coronary artery disease, asthma, and a variety of conditions characterized by pain and fatigue. The 1,300 participants in the study will receive exercise training, CBT, a combination of the two treatments, or usual and customary care. All participants will receive care from specially designated clinics and will work with a single nurse specifically assigned to the study.

■ The second treatment trial, which will involve more than 400 volunteers, will test whether an antibiotic is effective in treating the illnesses reported by Gulf War veterans. One current theory is that infection with the microorganism *Mycoplasma fermentans* causes the symptoms veterans are reporting. Some veterans say that the antibiotic doxycycline helps to treat their conditions, but a large-scale scientific study is needed to properly test this therapy. Volunteers will receive doxycycline or an inactive placebo orally for 12 months. To participate in this study, veterans must also have been suffering for six months or more from at least two of the three symptoms of fatigue, muscle and joint pain, or memory and thinking problems. Additionally, a test must show that they have a *Mycoplasma* infection.

National Academy of Sciences' Institute of Medicine Activities (IOM)

The IOM is an independent, non-governmental organization, working with VA and the Department of Defense (DOD) on numerous Gulf War-related health issues.

■ The IOM is assessing the health effects associated with various exposures during the Gulf War.

■ VA and DoD have contracted with the IOM to develop the best methods to measure the health of Gulf War veterans over time.

■ The IOM is advising VA on the most effective way to develop a plan for establishing a National Center on Gulf War-related Illnesses and Post-Deployment Health Issues.

Research Findings

While most of the 145 Gulf War-related projects are still in progress, some important results are already available:

■ VA, DoD, and the Department of Health and Human Services studies indicate that deployed Gulf War veterans are experiencing more health symptoms than their non-deployed counterparts. Surveys of Canadian and British Gulf War veterans show similar results.

■ VA and DoD studies have found that while some veterans' wartime experiences lead to post-traumatic stress disorder, this condition does not explain the majority of health problems in Gulf War veterans.

■ A large study of approximately 75,000 births in 135 military medical facilities in 1991-93 showed no differences in serious birth defects among the children of Gulf War veterans and the children of non-deployed military members. A follow-up study was conducted regarding Goldenhar syndrome, a rare congenital defect. However, it was inconclusive because of the small number of cases (only seven compared to five) and the low statistical power of the study.

■ VA's mortality study indicated that Gulf War veterans suffer from a small, but significant increased death rate due to accidents, such as motor vehicles, when compared to non-deployed military veterans. However, this study found that Gulf War veterans are not experiencing cancer or serious diseases at a greater rate than their non-deployed counterparts.

■ DoD's hospitalization study demonstrates that Gulf War participants who are still on active duty do not appear to be experiencing illnesses severe enough to be hospitalized more frequently than their non-deployed active duty counterparts.

■ A Centers for Disease Control and Prevention study identified a chronic multisystem condition that was associated with deployment to the Gulf War but was not associated with specific Gulf War exposures, and also affected nondeployed personnel.

Because no single, easily identified diagnosis has been found to explain the health problems experienced by some Gulf War veterans, there are many scientific questions being intensely and thoroughly investigated. Ail potential causes, including, but not limited to, oil well fires, vaccinations, mycoplasma and other infections, chemicals, pesticides, microwaves, depleted uranium, nerve agent pre-treatment pyridostigmine bromide, and chemical and biological warfare agents, are being studied and given careful scientific consideration.



Questions?
Call the Toll-Free

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